

Docket No.: PACHER
Appl. No.: 10/510,885

**AMENDMENTS TO THE CLAIMS WITH MARKINGS TO SHOW CHANGES
MADE, AND LISTING OF ALL CLAIMS WITH PROPER IDENTIFIERS**

1. (Currently amended) [[The use of a]] A ferritic chromium steel comprising,
by weight-%,
0.03 to 0.1% of carbon,
0.2 to 0.9% of silicon,
0.3 to 1% of manganese,
13 to 20% of chromium,
less than 0.5% of nickel,
0.1 to 1.5% of molybdenum,
0.1 to 0.5% of copper,
0.03 to 0.05% of nitrogen,
less than 10 ppm of boron,
less than 0.01% of titanium,
0.01 to 0.10% of niobium,
0.02 to 0.25% of vanadium,
less than 0.002% of aluminum,
remainder iron,
as a material for a corrosion-resistant spring elements element.

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2. (Currently amended) The ~~use of a chromium steel as claimed in of~~ claim 1, which ~~contains containing~~ less than 10 ppm of boron and/or less than 0.002% of aluminum.
3. (Currently amended) The ~~use of a chromium steel as claimed in of~~ claim 1, characterized in that wherein the carbon and nitrogen contents satisfy the condition
$$(\%C)/(\%N) = 0.8 \text{ to } 2.0.$$
4. (Currently amended) The ~~use of a chromium steel as claimed in of~~ claim 1, characterized in that wherein the niobium, vanadium and titanium contents satisfy the condition
$$[(\%Nb) + (\%V)]/10(\%Ti) = 5 \text{ to } 17.$$
5. (Currently amended) The ~~use of a chromium steel as claimed in claim 1 in the state in which it has been having a property to remain metastable when solution-annealed, and to allow cold worked and tempered cold-working and tempering at low temperatures.~~
6. (Currently amended) The ~~use of a chromium steel as claimed of~~ claim 1 for producing dimensionally stable, low-distortion objects by stamping or cutting.

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7. (Currently amended) The use of a chromium steel as claimed in of claim 1 as a material for fabricating leaf springs, spring rails for windscreen wipers, piston rings for internal combustion engines, sealing lamellae for hydraulic installations, reed lamellae and for products which come into contact with the human skin.
8. (Currently amended) A process for improving the spring properties of material in strand form, in which a ferritic chromium steel comprising the steps of:

cold-working a ferritic chromium steel of a composition comprising, by weight-% 0.03 to 0.1% of carbon, 0.2 to 0.9% of silicon, 0.3 to 1% of manganese, 13 to 20% of chromium, less than 0.5% of nickel, 0.1 to 1.5% of molybdenum, 0.1 to 0.5% of copper, 0.03 to 0.05% of nitrogen, less than 10 ppm of boron, less than 0.01% of titanium, 0.01 to 0.10% of niobium, 0.02 to 0.25% of vanadium, less than 0.002% of aluminum, remainder iron, is cold-worked to a degree of deformation of up to 40%;

[[, then solution-annealed]] solution-annealing the steel; and
[[quenched]]
quenching the steel.
9. (Currently amended) The process as claimed in of claim 8, characterized by wherein the step of solution annealing is executed at a temperature of 1000 °C to 1200 °C.

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10. (Currently amended) The process as claimed in of claim 8, characterized in that further comprising the step of cold-working the steel the solution-annealed steel is cold-worked with a degree of deformation of up to 65% following the quenching step.
11. (Currently amended) The process as claimed in of claim 10, characterized in that further comprising the step of hot age-hardening the cold-worked steel is hot age-hardened at a temperature of from 100 °C to 400 °C.
12. (Currently amended) The process as claimed in claim 10, characterized in that further comprising the step of cold-working the steel with a degree of deformation of up to 12% is set to provide a mean grain size of less than 15 µm.
13. (Currently amended) The process as claimed in claim 11, characterized by a—further comprising the step of final anneal annealing the steel under stress.
14. (Currently amended) The process as claimed in of claim 13, characterized bywherein the steel has a tensile stress of from 20 to 100 N/mm².
15. (New) The chromium steel of claim 1, containing less than 0.002% of aluminum.

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16. (New) The chromium steel of claim 1, having a grain size of less than 20 μm .
17. (New) A ferritic chromium steel comprising, by weight-%, 0.03 to 0.08% of carbon, 0.2 to 0.9% of silicon; 0.4 to 0.8% of manganese, 15 to 18% of chromium, less than 0.2% of nickel, in each case 0.1 to 0.5% of molybdenum and copper, 0.03 to 0.05% of nitrogen, less than 8 ppm of boron, less than 0.005% of titanium, 0.01 to 0.05% of niobium and 0.05 to 0.20% of vanadium, remainder iron.
18. (New) The process of claim 11, further comprising the step of hot age-hardening the cold-worked steel at a temperature of 300 °C for 10 to 15 min..
19. (New) The process of claim 8, wherein the steel is cold-worked to a degree of deformation of up to 30%.

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20. (New) A spring element made of ferritic chromium steel comprising, by weight-%, 0.03 to 0.1% of carbon, 0.2 to 0.9% of silicon, 0.3 to 1% of manganese, 13 to 20% of chromium, less than 0.5% of nickel, 0.1 to 1.5% of molybdenum, 0.1 to 0.5% of copper, 0.03 to 0.05% of nitrogen, less than 10 ppm of boron, less than 0.01% of titanium, 0.01 to 0.10% of niobium, 0.02 to 0.25% of vanadium, less than 0.002% of aluminum, remainder iron, and having a tensile stress from 20 to 100 N/mm².